



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,635	02/09/2004	Kouichi Kumamoto	KOY-0033	9414
23413	7590	02/14/2007	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			FIDLER, SHELBY LEE	
			ART UNIT	PAPER NUMBER
			2861	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/14/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/774,635

Applicant(s)

KUMAMOTO ET AL.

Examiner

Shelby Fidler

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 11-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 6-7, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa (US 6953245 B2) in view of Inaba (JP 11-208069 A1).

#### **Regarding claim 1:**

**Shirakawa discloses** an inkjet printer comprising:

a recording head (printing head 10) for jetting ink cured with irradiation of light onto a recording medium (col. 5, lines 62-65);

a light source (ultraviolet radiation units 20) for irradiating the light toward the ink jetted on the recording medium (col. 7, lines 7-11), the light source being provided so as to face the recording medium (Fig. 2);

a conveyance mechanism (rollers 209-212) for conveying the recording medium in a predetermined direction (col. 5, lines 14-17);

a control device (control system of Fig. 10) for controlling the recording head and the conveyance mechanism (col. 5, lines 51-56);

a protection member (shutters 22) *capable* of being placed between the light source and the recording medium when the media error is detected (col. 7, lines 45-48);

Art Unit: 2861

wherein the protection member is further placed between the recording head and the recording medium (Fig. 2A; although the shutters 22 are not directly underneath the recording head 10, the shutters 22 are situated at a vertical position that is between the recording head 10 and the paper P).

**Shirakawa does not expressly disclose** a media error detection mechanism for detecting a media error of the recording medium, or that the control device controls the conveyance mechanism to stop conveying the recording medium, and controlling the recording head to stop jetting the ink, when the media error of the recording medium is detected by the media error detection mechanism.

**However, Inaba discloses** a media error detection mechanism (distinction means) for detecting a media error of a recording medium (paragraph 6), and a control device that controls a conveyance mechanism to stop conveying the recording medium, and controlling a recording head to stop jetting ink (paragraph 6), when a media error of the recording medium is detected (paragraph 9).

Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize a media error detection mechanism into the invention of Shirakawa. The motivation for doing so, as taught by Inaba, is to allow for removal of the cause of abnormalities in conveyance (paragraph 35).

**Regarding claim 2:**

**Shirakawa also discloses** that the protection member comprises heat-insulating material (heat insulation is inherent to any material).

**Regarding claim 6:**

Art Unit: 2861

**Shirakawa also discloses** a head moving mechanism (motor 205) for moving the recording head of a serial print type in a direction perpendicular to a conveyance direction of the recording medium (col. 4, lines 39-46); and

**Inaba also discloses** controlling a head moving mechanism to stop, when a media error of the recording medium is detected by a media error detection mechanism (paragraph 6).

**Regarding claim 7:**

**Shirakawa also discloses** that the recording head (10) is of a line print type (col. 6, line 65 – col. 7, line 7; the printing head 10 ejects ink in lines).

**Regarding claim 11:**

**Shirakawa also discloses** that the ink is UV curable ink capable of being cured with irradiation of ultraviolet rays (col. 5, lines 62-65).

**Regarding claim 12:**

**Shirakawa as modified by Inaba do not expressly disclose** that the UV curable ink is cationic polymerization system ink.

**However,** this limitation is a recitation of the intended use of the inkjet apparatus. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. Therefore, the additional limitation has not been given patentable weight. See MPEP § 2114.

**Regarding claim 13:**

**Shirakawa also discloses** that the inkjet printer forms an image by jetting the ink onto the recording medium (col. 5, lines 62-65).

Art Unit: 2861

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa as modified by Inaba, as applied to claim 1 above, and further in view of Markham (US 5051758).

**Regarding claim 3:**

**Shirakawa as modified by Inaba disclose all claimed limitations except that the protection member is formed in a meshed shape.**

**However, Markham discloses a protection member that is formed in a meshed shape (col. 5, lines 19-20).**

Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize a mesh shaped protection member into the invention of Shirakawa as modified by Inaba. The motivation for doing so, as taught by Markham, is to provide a smooth surface for contacting the printhead (col. 5, lines 20-21).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa as modified by Inaba, as applied to claim 1 above, and further in view of Villaverde, Sr. et al. (US 5595118).

**Regarding claim 4:**

**Shirakawa as modified by Inaba disclose all the limitations of claim 1, and Shirakawa also discloses a driving mechanism for driving the protection member (inherent to col. 7, lines 45-48).**

**Shirakawa as modified by Inaba do not expressly disclose that the control device controls the driving mechanism to place the protection member between the light source and**

Art Unit: 2861

the recording medium, when the media error is detected by the media error detection mechanism.

However, Villaverde, Sr. et al. disclose controlling a driving mechanism to place a protection member between a light source and a recording medium, when a media error is detected (col. 6, lines 4-8).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize the media error controls of Villaverde, Sr. et al. into the invention of Shirakawa as modified by Inaba. The motivation for doing so, as taught by Villaverde, Sr. et al., is to be able to keep the UV lamp assembly on, avoiding a long power-up for the UV lamps (col. 6, lines 4-21).

#### *Allowable Subject Matter*

Claims 8-10 are allowed.

Please see prosecution history for reasons for allowance.

#### *Response to Arguments*

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection. Please see the above rejection of Shirakawa in view of Inaba, which discloses a protection member that is capable of being placed between the light source and the recording medium when the media error is detected.

Examiner notes that the limitation of "a protection member capable of being placed between the light source and the recording medium when the media error is detected" is met by the Shirakawa reference since the shutters 22 are shown to be placed between the light source

Art Unit: 2861

and the recording medium, and thus would be capable of such a position upon detection of a media error.

Further, the limitation that "the protection member is further placed between the recording head and the recording medium" is met by the Shirakawa reference, since the shutters 22 are at a vertical position that is between the recording head and the recording medium. Please note Figure 2 of Shirakawa, which shows the shutters 22 positioned below the printing head 10 and above the paper P.



*Communication with the USPTO*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelby Fidler whose telephone number is (571) 272-8455. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Shelby L. Fidler 2/1/2007*

Shelby Fidler  
Patent Examiner  
AU 2861



**STEPHEN MEIER**  
**SUPERVISORY PATENT EXAMINER**